List of Contents

NUMBER 1

Review

Sengoda G. Shanmugham, Terrence G. Beaumariage, Chell A. Roberts and **Dwayne A. Rollier** — 1 — Manufacturing communication: a review of the MMS approach

Ali K. Kamrani, Henry A. Wiebe and **Chiu-Chi Wei** — 23 — Animated simulation of robot process capability

Colin O. Benjamin, Sheng-Chai Chi, Tarek Gaber and **Catherine A. Riordan** — 43 — Comparing BP and ART II neural network classifiers for facility location

Chuen-Sheng Cheng — 51 — A multi-layer neural network model for detecting changes in the process mean

Dar-Li Yang and **Maw-Sheng Chern** — 63 — A two-machine flowshop sequencing problem with limited waiting time constraints

Sabah U. Randhawa and **Raj Shroff** — 71 — Simulation-based design evaluation of unit load automated storage/retrieval systems

Jill A. Swift and **Joe H. Mize** — 81 — Out-of-control pattern recognition and analysis for quality control charts using LISP-based systems

Chinho Lin and **T. William Chien** — 93 — Maintenance system design problems for a flexible manufacturing system

Richard J. Tersine, Samir Barman and **Richard A. Toelle** — 107 — Composite lot sizing with quantity and freight discounts

Moutaz Khouja — 123 — The use of data envelopment analysis for technology selection

Suk-Hwan Suh, Sung-Kee Noh and **Yong-Jong Choi** — 133 — A PC-based retrofitting toward CAD/CAM/CNC integration

Kurapati Venkatesh and **Mohammad Ilyas** — 147 — Real-time Petri Nets for modeling, controlling, and simulation of local area networks in flexible manufacturing systems

K.-H. Wang and **C.-L. Chang** — 163 — Reliability of a controllable $M/M/2$ system with warm standbys operating under the triadic $(0, Q, N, M)$ policy

John W. Chinneck 179 Processing network models of energy/environment systems

Avneesh Prakash and **Mingyuan Chen** 191 A simulation study of flexible manufacturing systems

Notes and Queries

John D. Dennis 201 On magnificent solutions to insignificant problems

Kewei Lai 203 The only correct method to evaluate roundness

Announcements I

NUMBER 2

P. S. Welgama and **P. R. Gibson** 205 A hybrid knowledge based/optimization system for automated selection of materials handling system

Richard F. Deckro, John E. Hebert, William A. Verdini, Per Henning Grimsrud and **Satya Venkateshwar** 219 Nonlinear time/cost tradeoff models in project management

Chae Y. Lee and **Seok J. Kim** 231 Parallel genetic algorithms for the earliness–tardiness job scheduling problem with general penalty weights

Moncer Hariga 245 Comparison of heuristic procedures for the inventory replenishment problem with a linear trend in demand

Chandrasekhar Das 259 Selection and evaluation of most profitable process targets for the control of canning quality

Phillip A. Farrington, Bernard J. Schroer and **Jian Wang** 267 Front-end system for modeling modern apparel manufacturing systems

Kyung-Huy Lee and **Moo-Young Jung** 279 Flexible process sequencing using Petri net theory

Chang-Kyo Suh, Eui-Ho Suh and **Dong-Man Lee** 291 Artificial intelligence approaches in model management systems: a survey

Jean-Marie Bourjolly, Brahim Gaboune, Gilbert Laporte and **François Soumis** 301 Optimal policies for some discrete sequencing problems arising in flexible manufacturing

A. A. Bulgak, P. D. Diwan and **B. Inozu** 309 Buffer size optimization in asynchronous assembly systems using genetic algorithms

Vasanthakumar N. Bhat	323	A queueing model in an alternating random environment
A. K. Sarada, S. K. Khator and **L. C. Leung**	329	Distribution planning in an electric utility: feeder configurations
X. D. Fang and **Y. Zhang**	341	A new algorithm for minimising the surplus parts in selective assembly
Dong-wan Tcha, Chun-hyun Paik and **Won-taek Lee**	351	Throughput upper bounds for open Markovian queueing networks with blocking
Buddhadev Roychoudhury and **John F. Muth**	367	Tool path optimization procedures for machine tools
Daniel J. Crowley, Jonathan F. Bard and **Paul A. Jensen**	379	Using flow ratio analysis and discrete event simulation to design a medium volume production facility
Kwangsoo Kim and **Jaehun Jeong**	399	Tool path generation for machining free-form pockets with islands
C. Sylla	409	A penalty-based optimization for reservoirs system management
Notes and Queries		
Utpal Roy and **Xuzeng Zhang**	423	Comments on "The only correct method to evaluate roundness"
Announcements	I	

NUMBER 3

Dingwei Wang	425	Earliness/tardiness production planning approaches for manufacturing systems
Kun-Jen Chung	437	Economic design of control charts with two control limits
Jen-Gwo Chen, Deborah J. Fisher and **K. Krishnamurthy**	457	Development of a computerized system for fall accident analysis and prevention
Md. R. Rotab Khan and **Syed Abid Naqvi**	467	Simulation study of reaction times at varying visual angles
Wade C. Driscoll	473	$E_m/E_k/S$ queuing systems with state-dependent arrivals
Dake Sun, Li Lin and **Rajan Batta**	485	Cell formation using tabu search

COMPUTER-INTEGRATED MANUFACTURING

Hamid R. Parsaei, Ben Wang and **Richard A. Wysk**	495	Editorial
Joseph Sarkis, Adrien Presley and **Donald H. Liles**	497	The management of technology within an Enterprise Engineering framework
Saeid Motavalli, Mohammad Dadashzadeh and **Mohammad Taghavi-Fard**	513	A proposed framework and a survey of research issues in manufacturing information systems
Cheng Hsu, Jangha Cho, Lester Yee and **Laurie Rattner**	523	Core information model: a practical solution to costly integration problems
Tor Guimaraes, Youngohc Yoon and **Quinton O'Neal**	545	Success factors for manufacturing expert system development
Youngsup Joo and **Russell R. Barton**	561	Integrated product and process design through feedback of manufacturing experience
Russell E. King and **Kyung Sup Kim**	575	AgvTalk: an object-oriented simulator for AGV systems
C. Alec Chang and **Chao-Ton Su**	593	A comparison of statistical regression and neural network methods in modeling measurement errors for computer vision inspection systems
S. M. Alexander, J. H. Graham, J. Guan and **Won Young Lee**	605	A functional approach for the concurrent design of diagnostic systems
Jong-Shin Liau, Robert E. Young and **Peter O'Grady**	615	Combining process planning and concurrent engineering to support printed circuit board assembly
Richard A. Wysk and **Jeffrey S. Smith**	631	A formal functional characterization of shop floor control
John W. T. Lee, Stephen C. F. Chan and **Daniel S. Yeung**	645	Modelling constraints in part structures
Anup Kumar, Rakesh M. Pathak, Yash P. Gupta and **Hamid R. Parsaei**	659	A genetic algorithm for distributed system topology design
Suraj M. Alexander, Matthew A. Dillman, John S. Usher and **Biju Damodaran**	671	Economic design of control charts using the Taguchi loss function

NUMBER 4

W. C. Ng	681	Determining the optimal number of duplicated process tanks in a single-hoist circuit board production line
Seok J. Koh and **Chae Y. Lee**	689	A tabu search for the survivable fiber optic communication network design
K. S. Hindi	701	Solving the single-item, capacitated dynamic lot-sizing problem with startup and reservation costs by Tabu search
K. S. Hindi	709	Computationally efficient solution of the multi-item, capacitated lot-sizing problem
Chae-Bogk Kim, Bobbie L. Foote and P. Simin Pulat	721	Cut-tree construction for facility layout
F. Kolahan, M. Liang and **M. Zuo**	731	Solving the combined part sequencing and tool replacement problem for an automated machining center: a Tabu search approach
Michael J. Brusco and **Tony R. Johns**	745	Improving the dispersion of surplus labor in personnel scheduling solutions
S. K. Goyal and **A. Gunasekaran**	755	An integrated production-inventory- marketing model for deteriorating items
Hyo-Seong Lee	763	On continuous review stochastic (s, S) inventory systems with ordering delays
Christian N. Madu, Chu-hua Kuei and **Jau-Hwei Chen**	773	A decision support systems approach to adjust maintenance float system availability levels
Minnie H. Patel	787	A linear program to detect extrapolation in predicting new responses of a multiple linear regression model
Jay Lee	793	Modern computer-aided maintenance of manufacturing equipment and systems: *review and perspective*
Hong Wang and **WanSoo T. Rhee**	813	An algorithm for estimating the parameters in multiple linear regression model with linear constraints
K. K. George and **N. Ramesh Babu**	823	On the effective tool path planning algorithms for sculptured surface manufacture
Khalil S. Hindi and **Eugeniusz Toczyłowski**	839	Detailed scheduling of batch production in a cell with parallel facilities and common renewable resources
Konstantin Kogan and **Eugene Khmelnitsky**	851	An optimal control method for aggregate production planning in large-scale manufacturing systems with capacity expansion and deterioration

J. Lyu, A. Gunasekaran, C. Y. Chen and **C. Kao**	861	A goal programming model for the coal blending problem
Gur Mosheiov	869	Scheduling jobs with step-deterioration; minimizing makespan on a single- and multi-machine
Christian N. Madu and **Chu-hua Kuei**	881	Stability analyses of group decision making
Zvi Drezner	893	Spherical approximations for minimax optimization problems
Taehoon Park and **Chae Y. Lee**	899	Algorithms for partitioning a graph
Zhiwei Zhu, Ronald B. Heady and **Stephen Reiners**	911	An efficient zero–one formulation of the cell formation problem
Sanjay S. Jagdale and **K. K. Wang**	917	Planning for the manufacture of axisymmetric parts: an AI-based approach
Diatha Krishna Sundar and **Damodar Acharya**	927	Blast schedule planning and shiftwise production scheduling of an opencast iron ore mine
Announcements	I	